

AMENDMENTS TO THE SPECIFICATION

Please make changes in the Specification as follows:

Page 4 bridging Page 5, starting at line 17 and ending at line 8:

is fixed on the printing medium. Moreover, the fixing device further includes holding electric field generating means for generating a holding electric field which is an electric ~~field~~ field in a direction for holding a reverse polarity developer on the printing medium. Note that the reverse polarity developer has a polarity opposite to a polarity of the developer which forms an image on the printing medium.

Page 9, starting at line 4 and ending at line 15:

A fixing method of the present invention fixes an unfixed image, formed on a printing medium with a developer, on the printing medium by sandwiching and feeding the printing medium by a fixing member which is in contact with the unfixed image and a pressure member which is in contact with the fixing member, and the fixing method includes the step of giving a holding electric field which is an electric ~~field~~ field in a direction for holding a reverse polarity developer on the printing medium. Note that the reverse polarity developer has a polarity opposite to a polarity of the developer which forms an image on the printing medium.

Page 33 bridging page 34, starting at line 19 and ending at line 3:

In the image forming apparatus 41, process units each having a function in an image forming process are provided around a photosensitive drum 1, and these process units forms an image forming section. Around the photosensitive drum 1, an electrifying device 2, ~~[[an]]~~ a light scanning device 3, a developing device 4, a transfer device 5, a cleaning device 6, an electricity removing device 7, etc. are sequentially provided in a rotation direction of the photosensitive drum 1.

Page 37, starting at line 10 and ending at line 17:

A control device 19 is provided above the light scanning device 3 and stores, for example, a circuit substrate which controls an image forming process and an interface substrate(s) which receives image data from an external device. Moreover, a power source device 20 is provided under the light scanning device 3 and supplies electric power to the above-described various interface substrates and the image forming process ~~[[UN]]~~ units.

Page 40 bridging page 41, starting at line 16 and ending at line 7 :

A large ~~mount~~ amount of aluminum, iron, and an alloy of these are used in the fixing device 31. In the present embodiment, the fixing device 31 is manufactured in such a manner that (i) an iron-based cold rolling carbon steel tube is processed by, for example, a drawing treatment so as to have a desired external diameter and thickness, and then (ii) the obtained iron-based cold rolling carbon steel tube is polished so as to have the external diameter of 40 mm and the thickness of 1.3 mm. Both end portions of the fixing roller 31 are processed by a reducing treatment so as to have the external diameter of 30 mm and the thickness of 1.5 mm, and a load applied to the fixing roller 31 is supported with a ball bearing (a type of rolling bearings) that is a shaft supporting member. The core bar 61 of the fixing roller 31 is subjected to a parkerizing treatment (a phosphate film treatment or a zinc phosphate film treatment) to prevent from rusting.

Page 51 bridging page 52, starting at line 9 and ending at line 4:

Here, the ~~[[fixing]]~~ transfer device 5 is provided upstream of the fixing device 14 in a feeding direction of the printing medium 91. The ~~fixing~~ transfer device 5 carries out a transfer process of copying to the printing medium 91 a toner image that is an electrostatic visible image formed on the photosensitive drum 1 with a toner. Here, the reverse polarity toner 92 adheres to the surface of the

and the reverse polarity toner 92 moves from the surface of the transfer device 5 to the back surface of the printing medium 91.

Although the fixing transfer device 5 has a mechanism of removing, for example, the reverse polarity toner, paper slips, etc., however in many cases, the fixing device 5 cannot remove those completely. Then, the remaining reverse polarity toner or paper slips are accumulated on the surface of the transfer device 5. Then, due to a power balance of, for example, an electric or mechanical adhesive force, some of or all of the reverse polarity toner or paper slips adhere to the printing medium 91, and are delivered to the fixing device 14 provided downstream of the transfer device 5.

Page 56 bridging page 57, starting at line 2 and ending at line 1:

The foregoing description also shows that a high current by the fixing bias supplied from the bias ~~voltage~~ device 94 also causes troubles. Therefore, it is desirable that the fixing device 31 have the surface resistivity which can maintain stable current supply. Especially, if the flowing current is too high, the amount of leak current leaking to members which does not require the current increases. This causes other troubles by noises, etc. with respect to a processing system and a control system, such as the image processing system and the image forming process. The surface resistivity for stabilizing the current flowing in the fixing roller 31 can be obtained by defining the volume resistivity of the surface insulating layer 63 and by optimizing the state of the surface (the surface roughness, the amount of liquid adhering to the surface, the environmental condition, etc.) of the fixing roller 31. On this account, it is preferable that the volume resistivity of the surface insulating layer 63 be in a range higher than $10^{13} \Omega \cdot \text{cm}$, and it is more preferable that the volume resistivity of the surface insulating layer 63 be higher than $10^{14} \Omega \cdot \text{cm}$. If too high current is supplied, a sudden change of current causes adverse influences, such as (i) troubles in operating devices, such as

a control device, (ii) deterioration of the surface resistive layer 74 of the pressure roller 32, and (iii) formation of holes.

The function of preventing the occurrence of the image failure by applying the fixing bias voltage from the bias device 94 to the fixing roller 31 can be obtained in a similar manner even if the conductive core bar 61 of the fixing roller 31, the conductive core bar 71 of the pressure roller 32, the intermediate layer 62, the intermediate layer 73, the surface insulating layer 63, and/or the surface resistive layer 74 are replaced with a different type (although the above-described preventing function may change a little). Further, even if the type, thickness, and/or size of the printing medium 91 are changed, the same preventing function can be obtained.

Page 58, starting at line 5 and ending at line 15:

Further, in the present embodiment, the fixing roller 31 contains two halogen lamps 64, and one halogen lamp 64 mainly heats a central portion of the fixing roller 31 and another halogen lamp 64 mainly heats both end portions of the fixing roller 31. However, the portions the halogen lamps 64 heat are not limited to this. For example, one halogen lamp 64 may heat the fixing roller 31 entirely, and another halogen lamp 64 may heat the fixing roller ~~31~~partially 31 partially. Moreover, the number of the halogen lamps 64 is not limited to two, but may be three or more, or may be one.

Page 62, starting at line 18 and ending at line 24:

The fixing device 101 carries out fixing by using, for example, the halogen lamp. Two halogen lamps 64 are contained in the fixing roller 31 (one for heating the central portion of the fixing roller 31, and another for heating both end portions of the fixing roller 31), and one halogen lamp ~~[[64]]~~77d (for heating the heating roller 77 entirely) is contained in the heating roller 77.

Page 63 bridging page 64 , starting at line 22 and ending at line 7:

The fixing bias voltage is applied through the cleaning roller 102 to the surface of the pressure roller 32, so that the surface of the pressure roller 32 is positively electrified. With this, the reverse polarity toner 92 on the back surface of the printing medium ~~[[92]]~~ 91 stays on the back surface of the printing medium ~~[[92]]~~ 91, and does not move to the pressure roller 32. As a result, the reverse polarity toner 92, the amount of which is very small, on the back surface of the printing medium 91 is fixed on the printing medium 91, and is output from the image forming apparatus 41 together with the printing medium 91.

Page 70 bridging page 71, starting at line 14 and ending at line 7:

A fixing device 121 of the present embodiment is shown in FIG. 11. The fixing bias voltage having a polarity opposite to that of the reverse polarity toner 92 is applied from the bias device 94 to the conductive core bar 61 of the fixing roller 31. For the pressure roller 32, a scraper 122 made of, for example, conductive SUS (stainless steel) is provided at a position close to a position where the printing medium is output near an outer periphery portion of the pressure roller 32, and a potential given brush 123 is provided at a position close to a position where the printing medium is input. The fixing bias voltage having the same polarity as the reverse polarity toner 92 is applied from a bias device ~~105a~~ 105b to the scraper 122, and the fixing bias voltage having the same polarity as the reverse polarity toner 92 is applied from a bias device ~~105b~~ 105a to the potential given brush 123. In the present embodiment, the fixing bias voltage from the bias device 94 is -1 kV, the fixing bias voltage from the bias device ~~105a~~ 105b is +600 V, and the fixing bias voltage from the bias device ~~105b~~ 105a is +1,000 V.

Page 73, starting at line 4 and ending at line 16:

Note that in the fixing ~~bias-voltage device~~ device 121, the scraper 122 and the potential given brush 123 are provided as members for giving the potential to the pressure roller 32. However, as shown in FIG. 12, only the potential given brush 123 may be provided for the pressure roller 32. Alternatively, only the scraper 122 may be provided for the pressure roller 32. In the present embodiment, the potential given brush 123 is in contact with the pressure roller 32, however the potential given brush 123 may be provided near the pressure roller 32 so as not to be in contact with the pressure roller 32, or the potential given brush 123 may be grounded so that the potential to be applied to the pressure roller 32 is a zero potential.